DOI: 10.1136/annrheumdis-2019-eular.2265

AB1067

THE IMPACT OF ACUTE RHEUMATIC FEVER IN A PROVINCE OF CENTRAL-NORTH ITALY

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Background: Acute rheumatic fever (ARF) is a multisystem complication of group A streptococcal (GAS) infection. The incidence of ARF varies greatly in different geographic areas, with the highest incidence in Asia, Eastern Europe, and Australia (10-350 out of 100 000 per year) (1) and lowest (0.5-3 out of 100 000) in the US and Western Europe.

In 2015 the latest version of Jones Criteria has been published (2), incidence less than 2 out of 100.000 per year was established to define low-risk (LR) population. Due to the lack of nationwide epidemiologic data in Italy, it is difficult to define the correct population Jones criteria's category to use.

Objectives: To estimate the incidence of ARF in a metropolitan area of Central-North Italy and to study the clinical characteristics of the disease in a developed country.

Methods: We retrospectively analyzed the data of all patients with ARF aged 5-14 years old, diagnosed according to the classical and now LR Jones criteria (2), referred to Sant'Orsola-Malpighi Hospital of Bologna from January 2012 to December 2017 living in the province of Bologna.

Results: We identified a total of 24 patients diagnosed by ARF. In the province of Bologna, the inhabitants between 5 and 14 years of age varied from 82.967 in 2012 to 89.699 in 2017. Every year the annual incidence of ARF was above 2 out of 100.000. The highest incidence was reported in 2013 with 8 new diagnosis (incidence of 9.3 out of 100 000 per year). Carditis was present in 20 patients (83.3% of cases), chorea in 8 children (33.3%). Only 3 patients presented polyarthritis at diagnosis while 9 had polyarthralgia and 3 presented with monoarthritis. In 6 patients the diagnosis followed the onset of chorea and no joint involvement was recorded. In 5 patients the diagnosis of ARF was made after the detection of classical cardiac findings without other major criteria. Cardiac involvement was characterized by mitral regurgitation in 17 cases and aortic regurgitation in 10 (8 patients with mitral aortic involvement). Five patients presented with fever ($\geq 38.5^{\circ}\text{C}$), 11 children had elevated inflammatory markers as erythrocyte sedimentation rate (ESR) ≥ 60 mm/h and/or C-reactive protein (CRP) ≥ 3.0 mg/dL. Only 5 patients had positive swab for GAS. Twelve patients (50%) were treated with steroid. Fourteen patients received secondary prophylaxis every 28 days, two of them switched to every 21 days.

Conclusion: Our study confirms the previous published data of Breda *et al.* (3) and Licciardi *et al.* (4) in other Italian areas supporting the evidence for high risk (HR) in our region. Furthermore, this study shows that in our population only few patients had the classical polyarthritis presentation. It is important to consider the new HR criteria for arthritis in order not to miss diagnosis. A careful clinical history is needed because the demonstration of GAS infection is often difficult. These data may strengthen the hypothesis to consider our whole country as a HR area for ARF. A nationwide study is mandatory.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.7737

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CLINICAL FEATURES IN TURKISH CHILDREN WITH CHRONIC NON-BACTERIAL OSTEOMYELITIS

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Background: Chronic non-bacterial osteomyelitis (CNO) is a rare bone disease of autoinflammatory origin. CNO patients present with bone, joint pain and swelling. Other autoinflammatory disorders such as palmoplantar pustulosis, psoriasis and inflammatory bowel disease may accompany CNO.

Objectives: Our aim is to determine demographic, clinical and radiological characteristics of Turkish children with CNO.

Methods: Clinical, laboratory features and imaging findings were retrospectively analyzed in 28 CNO Turkish patients from three pediatric rheumatology centers. Clinical findings, radiological data, treatments and outcome were evaluated.

Results: Of the 28 CNO patients, 10 (35.7%) female and 18 (64.3%) were male. Mean age at diagnosis was 9.54 (3-16.5) year. The lag time between symptoms and diagnosis was 6.5 (0-60) months. The median follow-up time was 18.5 (1-107) months. At the time of admission, symptoms were arthralgia (75.0%), bone pain (64.3%), limping (32.1%), swelling (28.6%), weakness (10.7%), and fever (3.6%). Two patients had inflammatory bowel disease (IBD) and six had familial Mediterranean fever (FMF). The bone lesions were mostly multifocal (96.4%), 3.6% was unifocal. The most frequently involved bones were femur (67.9%), tibia (53.6%) and pelvic bones (32.2%). (Table 1) The patients had mildly elevated CRP and ESR levels. HLA B27 association was 25%. ANA was positive in 5%. All patients were RF negative. Six patients had mutations in the MEFV gene, all of them had M694V allele. The most common finding in Histopathological examination (n=9) demonstrated sterile mixed cell infiltration composed of lymphocyte and neutrophils. MRI results were mostly defined as bone marrow edema, and bone scan findings showed increased osteoblastic activity. All of patients received NSAIDs. Other drugs were methotrexate (46.4%) sulfasalazine (39%), steroids (25%), anti-TNF drugs (32%), and pamidronate (25%). Response to treatment was partial in 32.1%, whereas 39.3% patients had complete remission. There was no response in 8 patients (28.6%).

Conclusion: CNO was first described by Giedion in 1972 as multifocal bone lesions of inflammatory origin.¹ There are 500 CNO patients reported in the literature as individual or case series.² The laboratory findings are nonspecific and the diagnosis is mostly clinical and radiological. MRI and bone scan are the most commonly used imaging modalities. Histopathological results are non-specific, and may be necessary to exclude infection and malignancy. NSAIDs, sulfasalazine and methotrexate are mostly used in the treatment. Steroids, biological drugs and pamidronate are other options. There is still need for further treatment options, because there are significant number of resistant patients.

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Affected bones	n	%
Femur	19	67.9
Tibia	15	53.6
Pelvic bones	9	32.1
Calcaneus-talus	6	21.4
Clavícula	4	14.3
Mandible	3	10.7
Vertebra	2	7.1
Metatars	2	7.1
Sacrum	1	3.6
Cranium	1	3.6
Localisation	n	%
Metaphysis	17	60.7
Metaphysis-epiphysis	6	21.4
Metaphysis-diaphysis	4	14.3
Diaphysis	1	3.6